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MEMORANDUM

TO: Bob Morgan
✓ Kent Jones
Jim Riley
Mike Quealy
John Mabey
Michele Lemieux
Bill Schlotthauer

FROM: Jerry Olds

SUBJECT: Salt Lake Valley Ground-Water Plan

DATE: April 4, 1991

Attached for your review and comment is a redraft of the cover letter and the interim ground-water management plan for Salt Lake Valley. I have attempted to incorporate the comments and suggestions that were given to me yesterday. Please review these documents very carefully and submit any additional comments you have.

I assume that we are getting close to a final product, and based upon your comments on this draft, I will modify the documents accordingly and prepare the final versions. We are planning to mail the documents out on Friday. If you believe there is any issues that we need to meet and discuss, please let me know.

/wk

Attachments

April 5, 1991

Salt Lake Valley Ground Water Users

Enclosed is a final version of the interim ground-water management plan for Salt Lake Valley. In preparing this version of the plan, we have attempted to incorporate many of the comments that were submitted. The comments that were submitted reflect a great deal of thought and interest and we appreciate them very much.

In modifying the plan, there were many good comments made which cannot be specifically included or addressed, but which are governed by existing water law. For example, several agencies questioned whether it is fair to those water suppliers with later priority rights who have drilled and developed their wells to be impacted or denied water when earlier priority water rights are finally developed. The current law would require the rights to be administered in accordance with their priority dates--which, for pre-1935 rights, would be the date the water was placed to beneficial use; and, for rights after 1935, ^{generally,} the date of the application. (priority may have been ^{used})

In this version of the plan, we have taken out the three year moving average in distributing the allowable withdrawals. Several entities requested that we increase this to a five or six year moving average. We agree with this suggestion, but because this is an interim plan for only 3 to 4 years, this requirement will probably not have to be considered. In reviewing the allowable withdrawal figures which we presented in the earlier version of the plan, they are perhaps somewhat optimistic, and depending upon the results from the current study, they will be adjusted accordingly. During this interim period, it is our proposal that the figures set forth on the map which accompanies the plan be the maximum withdrawals that shall be allowed during any particular year.

Several individuals suggested that a standard form be developed for the annual reporting requirement. The Division of Water Rights currently conducts the annual water use survey for the major public and industrial water suppliers in the state. Under the provisions set forth under paragraph No. 8 of the ^{interim groundwater management} plan for the annual recording requirements, it would appear that those who annually submit an accurate and complete water use form would fulfill the requirements under this paragraph. Enclosed is a copy of the water use form that is presently being used. If you have any problem with this approach please let us know.

In the plan, we did not make the reporting of water levels mandatory. Several entities expressed concern that their wells are not equipped to measure water levels, and we also have some reservations about the quality of the data. Therefore, we are asking the water users to provide us with the water level data if it is readily available and such measurements should be made on or about the first of each month. We will evaluate the quality of the data over the next two years, after which a decision will be made whether to make it a part of the annual data report.

During this next year, we will attempt to improve our data collection and reporting for Salt Lake Valley. Hopefully, we will be able to provide you additional data and analysis concerning water use and other important groundwater issues throughout the valley. We are also examining our monitoring network which we operate in conjunction with the U.S. Geological Survey and plan to make modifications to ensure that the data necessary to administer this plan is available. We plan to hold annual updates to review the progress of the study and the data collected during the previous year. You will be notified of these meetings and they will be held in early spring, beginning next year.

Several water suppliers expressed concern about the possibility of a "drilling war" in the valley. We are also very concerned about this and do not want to encourage the needless drilling of additional wells or promote excessive groundwater withdrawals. In fact, we would caution that before any new large

production wells are drilled, the need for such a well be critically reviewed.

We encourage the water users to work together in finding valley wide solutions to our problems. For example, there may be opportunities for the conjunctive use of surface and ground-water supplies and also artificial ground-water recharge projects. If such efforts are done in such a manner as to promote the wise use of our water resources, while at the same time protecting the water rights of others, we are very supportive of such efforts.

It is our intent to manage and administer the ground water resources in Salt Lake Valley according to the enclosed interim ground-water management plan. Although we believe it lays a good foundation for such management, undoubtedly there is a great deal of judgment which will have to be used as this plan is implemented. We will strive to do so in a fair and equitable manner. If at any time you would like to discuss any aspect of the plan or the manner in which it is being administered, please feel free to contact the Division.

Sincerely,

Robert L. Morgan, P.E.

State Engineer

RLM/wk

Enclosures

DRAFT

4/3/91

SALT LAKE VALLEY INTERIM GROUND-WATER MANAGEMENT PLAN

BACKGROUND

1 The ground-water aquifer in Salt Lake Valley is an important source of
2 water. Currently, ground water provides approximately 130,000 acre-feet annually
3 for municipal, industrial, irrigation, domestic and stock watering purposes. The
4 ground water in the principal aquifer is generally of excellent quality on the
5 east side of the valley, with the quality becoming poorer as it moves towards the
6 Great Salt Lake.

7 During the past several years, the State Engineer has been studying the
8 ground-water resources and water rights in Salt Lake Valley. Based upon the
9 State Engineer's review, it is his opinion that certain actions need to be taken
10 now to ensure that the resource does not become contaminated as a result of
11 excess withdrawals. A study is currently being conducted by the U. S. Geological
12 Survey in cooperation with the Division of Water Rights, Division of
13 Environmental Health, and the public water suppliers in the valley. The purpose
14 of this study is to determine the effects of ground-water withdrawals on water
15 quality and improve the existing ground-water model. This study is scheduled to
16 be completed in 1994. Because of the importance of this resource and the
17 substantial economic investment that has been made and is planned, the State
18 Engineer believes that an interim ground-water management plan is needed to
19 provide protection and guide development of the ground-water resource during the
20 next four to five years.

1 The objective of this interim ground-water management plan is to allow full
2 utilization of the resource, within the constraint that water quality is not
3 unreasonably affected. In proposing this interim management plan, the State
4 Engineer has taken into account his statutory authority and has attempted to work
5 within these limits. These are interim guidelines and are subject to amendment
6 as additional data becomes available.

7 1. Volume of Withdrawals. Ground-water withdrawals from the principal
8 aquifer in each management area, as denoted and set forth on the attached map,
9 shall not exceed the allowable annual withdrawal in any calendar year. The
10 combined allowable annual withdrawals for management areas 1 through 5,
11 inclusive, is approximately the amount of high quality recharge from bedrock and
12 other sources. Withdrawals should be distributed over the valley to ensure that
13 localized interference and water quality problems do not result. In
14 administering the water rights in the ground-water basin, the State Engineer will
15 distribute the water in accordance with the priority dates of the respective
16 rights. In distributing the water in accordance with priority, the State
17 Engineer will also consider the following factors:

18 A) The cumulative effects of withdrawals from wells in a particular
19 area on both water quantity and quality. If it is determined that
20 such withdrawals unreasonably affect the water quality of the
21 principal aquifer, withdrawals in that area may be limited even
22 though total withdrawals in the management area do not exceed the
23 allowable withdrawal limit.

24 B) A well located in an isolated area and which does not significantly
25 affect other water rights or the water quality of the principal
26 aquifer may be permitted to divert water, even though in other

1 portions of the management area or valley wells with an earlier
2 priority date have been ordered to stop diverting water.

3 C) Additional withdrawals above the allowable withdrawal limits set
4 forth on the map will be allowed if such withdrawals are from the
5 shallow aquifer, provided that such withdrawals do not have an
6 adverse affect on other water rights.

7 2. Applications to Appropriate Water and Segregation Applications.

8 Applications to appropriate water from the principal aquifer will be considered
9 for single family uses in non-subdivision areas where water is not available from
10 a water supply system. Applications to appropriate water will be limited to a
11 maximum annual diversion of 1.0 acre-foot. The uses under such application shall
12 not exceed the domestic purposes of one family, irrigation of 0.10 acres, and/or
13 the stock watering of a maximum of 10 head of livestock. Such rights shall be
14 approved as fixed time applications for a ten year period and upon the condition
15 that when a public water system is available, the users will connect to the
16 system and the well will be sealed and the water right abandoned. If a public
17 water supply system is not available, such application will be extended to
18 fulfill the essential and primary purpose of the application

19 All future segregation applications will be critically reviewed on their
20 individual merits, according to current statutory provisions.

21 3. Extensions of Time for Applications to Appropriate Water. The State
22 Engineer will critically review all future extension requests on approved
23 applications to appropriate water pursuant to Section 73-3-12 of the Utah Code.
24 In reviewing extension requests, if the State Engineer finds unjustified delays
25 or a lack of due diligence, he may grant the request in part (including a

1 reduction in the quantity of water available under the application), reduce the
2 priority date, or deny the extension of time request.

3 4. Change Applications. Change applications will be considered and
4 evaluated on their own individual merits. In considering change applications,
5 the State Engineer will quantify and determine, among other statutory
6 considerations, whether the proposed change will adversely affect the water
7 quality of the ground-water basin. Change applications which propose to transfer
8 water rights historically supplied from the shallow aquifer to the principal
9 aquifer will not be approved. The secondary objective of the interim ground-
10 water management plan is to guide future development and to uniformly distribute
11 the ground-water withdrawals over the valley. In accordance with this objective,
12 the State Engineer has developed a map showing the maximum allowable withdrawals
13 for nine management areas throughout the valley. The allowable withdrawal
14 figures set forth on this map will be used as a guide to determine whether
15 transfers will be allowed into a particular area.

16 5. Proof of Appropriation/Change. In conjunction with all proof of
17 appropriation or proof of change, the State Engineer shall require that the total
18 volume of water to be certificated has in fact been developed and placed to
19 beneficial use. The requirement shall apply to all applications regardless of
20 use. The State Engineer will review the total operation of a system or water
21 user to ensure the intent of this requirement is met.

22 6. Well Spacing and Flow Rate. Well spacing and maximum flow rates of
23 wells drilled after the adoption of this management plan shall be determined and
24 shall be regulated so a well, when pumped at its maximum permitted flow rate,
25 will not cause more than 12 feet of drawdown on any well with an earlier priority
26 date. Users in a particular area may enter into an agreement to provide a
27 variance from this requirement if it does not interfere with third party rights
28 and subject to approval by the State Engineer.

? rights or
pumping rate.
.064
.07 ds
30 gpm

1 7. Metering. All wells which withdraw or could potentially withdraw 50
2 acre-feet or more annually shall be equipped with a meter capable of measuring
3 the instantaneous flow rate and total volume pumped through the meter. For wells
4 which withdraw or could potentially withdraw 250 acre-feet or more annually the
5 owner shall also submit an annual water quality report for total inorganics. If
6 monthly well water levels are taken it is requested that such measurements also
7 be submitted. Water level measurements should be made on or about the first day
8 of each month.

.5 ds
155 gpm

50 or 250 ?

9 8. Annual Reporting. All water users meeting the criteria under number
10 7 above shall submit an annual report to the State Engineer by March 1 of each
11 year setting forth the quantity of water diverted for each of their wells during
12 the previous calendar year, along with the water quality report if applicable.
13 Such reports shall summarize the monthly withdrawals for each well operated. If
14 the water user submits an accurate and complete annual Utah Water Use form it
15 shall fulfill this requirement.